WHAT IS CLAIMED IS:

1. An isolated nucleic acid comprising a nucleotide sequence which is at least 70% identical to the sequence of SEQ ID NO:3.

2. An isolated nucleic acid comprising a nucleotide sequence which is at least 80% identical to the sequence of SEQ ID NO:3.

3. An isolated nucleic acid comprising a nucleotide sequence which is at least 90% identical to the sequence of SEQ ID NO:3.

4. An isolated nucleic acid comprising a nucleotide sequence which is at least 95% identical to the sequence of SEQ ID NO:3.

5. An isolated nucleic acid comprising the nucleotide sequence of SEQ ID NO: 3.

6. The nucleic acid of claim 5 further comprising a nucleotide sequence encoding a polypeptide with the amino acid sequence of SEQ ID NO:2.

7. An expression vector comprising the nucleic acid of claim 6 operably linked to an expression control sequence.

8. A cultured cell comprising the vector of claim 7.

9. A method for producing a polypeptide, comprising culturing the cultured cell of claim 8 in a medium under conditions permitting expression of a polypeptide encoded by the vector, and purifying the polypeptide from the cultured cell or the medium of the cell.

10. A cultured cell transfected with the expression vector of claim 7, or a progeny of the cultured cell, wherein the cultured cell expresses a polypeptide encoded by the expression vector.

11. A cultured cell comprising the nucleic acid of claim 6 operably linked to an expression control sequence.

12. A method for producing a polypeptide, comprising culturing the cultured cell of claim 11 in a medium under conditions permitting expression under the control of the expression control sequence, and purifying a polypeptide encoded by the nucleic acid from the cell or the medium of the cell.

13. The nucleic acid of claim 5 further comprising SEQ ID NO:1 or fragments thereof.

14. An isolated nucleic acid comprising a sequence that hybridizes under low stringency conditions to a hybridization probe the sequence of which consists of SEQ ID NO:1 or the complement of SEQ ID NO:1.

15. An isolated nucleic acid comprising a sequence that hybridizes under medium stringency conditions to a hybridization probe the sequence of which consists of SEQ ID NO:1 or the complement of SEQ ID NO:1.

16. An isolated nucleic acid comprising a sequence that hybridizes under high stringency conditions to a hybridization probe the sequence of which consists of SEQ ID NO:1 or the complement of SEQ ID NO:1.

17. An isolated polypeptide comprising an amino acid sequence which is at least 70% identical to the amino acid sequence of SEQ ID NO:2.

18. The isolated polypeptide of claim 17, wherein the polypeptide, when expressed in a cell, renders the cell resistant to DNA-damaging agents.

19. An expression vector, comprising:

a first nucleic acid sequence comprising SEQ ID NO:3; and

a second nucleic acid sequence encoding a gene,

wherein the 5'-end of the second sequence is operatively linked to the 3'-end of the first sequence.

20. The vector of claim 19, wherein the gene encodes a green fluorescent protein, a luciferase, or a lacZ.

21. The vector of claim 19, wherein the gene encodes a suicide protein.

22. A cultured cell comprising the vector of claim 19.

23. A purified antibody that binds specifically to a polypeptide with the amino acid sequence of SEQ ID NO:2 or fragments thereof.

24. A nucleic acid sequence comprising SEQ ID NO:3 operably linked to a heterologous sequence.

25. A method for detecting a cellular proliferative disorder in a subject, comprising:

i) providing a test sample of a subject; and

ii) measuring the expression level of a gene encoding a polypeptide with a sequence of SEQ ID NO:2 (MRP3s1 gene) in the test sample.

26. The method of claim 25 further comprising reporting the expression level of the MRP3s1 gene in the test sample.

27. The method of claim 26 further comprising comparing the expression level to a predetermined value.

28. The method of claim 25, wherein the expression level of the MRP3s1 gene is the amount of an mRNA encoding a polypeptide with a sequence of SEQ ID NO:2.

29. The method of claim 25, wherein the expression level of the MRP3s1 gene is the amount of a polypeptide with a sequence of SEQ ID NO:2.

30. The method of claim 28 further comprising

i) contacting an antibody against a polypeptide that comprises a sequence of SEQ ID NO:2 with a cell in the test sample; and

ii) detecting binding of the antibody.

31. A method for monitoring a subject undergoing a therapeutic treatment, comprising:

i) obtaining a test sample from a subject; and

ii) measuring the expression level of a gene encoding a polypeptide with a sequence of SEQ ID NO:2 (MRP3s1 gene) in the test sample.

32. The method of claim 31 further comprising obtaining a previous sample from a subject at an earlier time.

33. The method of claim 32 further comprising reporting the expression levels in the test sample and the previous sample.

34. A method for targeting a cellular proliferative disorder in a subject, comprising:

i) identifying a subject suffering a cellular proliferative disorder; and

ii) administering to the subject an agent that can bind to a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or fragments thereof.

35. A method for expressing a foreign polypeptide in a cell in vivo, wherein the foreign polypeptide can bind to a polypeptide with the amino acid sequence of SEQ ID NO:2, comprising

i) providing an expression vector encoding the foreign polypeptide;

ii) introducing the vector into a cell in vivo; and

iii) maintaining the cell in vivo under conditions permitting expression of the foreign polypeptide in the cell.

36. A method for introducing a foreign nucleic acid into a cell in vivo, comprising:

i) providing a sequence comprising the foreign nucleic acid; and

ii) contacting the sequence with a cell in vivo,

wherein the foreign nucleic acid is complementary to SEQ ID NO:1 or fragments thereof

37. A method for targeting a cellular proliferative disorder in a subject, comprising

i) identifying a subject having a cellular proliferative disorder; and

ii) administering to the subject an agent that can bind to a nucleic acid comprising the nucleotide sequence of SEQ ID NO: 3.

38. A method for targeting a cellular proliferative disorder in a subject, comprising

i) identifying a subject having a cellular proliferative disorder; and

ii) administering to the subject an agent that can modulate the expression level of a gene encoding to a polypeptide comprising the amino acid sequence of SEQ ID NO:2.

39. A method for modulating the cellular pump mechanism of a resistant tumor cell, comprising

i) providing an agent that binds to a polypeptide comprising the amino acid sequence of SEQ ID NO:2, or fragments thereof; and

ii) contacting the agent with the cell.

40. A method for modulating the cellular pump mechanism of a resistant tumor cell in a subject, comprising administering to a subject having a resistant tumor cell an agent that binds to a polypeptide comprising the amino acid sequence of SEQ ID NO: 2.

41. A method for screening for a therapeutic agent for treating a drug-resistant tumor cell, comprising:

i) providing a cell system comprising a reporter gene operatively linked to a regulatory sequence constructed and arranged to drive the transcription of the reporter gene;

ii) contacting the cell system with a candidate agent; and

iii) measuring the level of synthesis of the gene product of the reporter gene, wherein a decreased level of synthesis in the presence of the candidate agent compared to in the absence of the agent is indicative of the agent being an effective agent for treating a drug-resistant tumor cell.

42. The method of claim 41, wherein the regulatory sequence comprises SEQ ID NO:3.

43. The method of claim 41, wherein the reporter gene encodes a green fluorescent protein, a luciferase, or a lacZ.

44. A cell for screening for a therapeutic agent for treating a drug-resistant tumor cell, wherein the cell comprises a reporter gene operatively linked to a sequence constructed and arranged to drive the transcription of the reporter gene.

45. The cell of claim 44, wherein the sequence comprises SEQ ID NO:3.

46. The cell of claim 44, wherein the reporter gene encodes a green fluorescent protein, a luciferase, or a lacZ.

47. A method for making an antibody, comprising immunizing a non-human animal with an immunogenic fragment of a polypeptide with the sequence of SEQ ID NO: 2.

48. A method for making an antibody, comprising providing a hybridoma cell that produces a monoclonal antibody specific for a polypeptide with the sequence of SEQ ID NO: 2, and culturing the cell under conditions that permit production of the monoclonal antibody.

49. A method for modulating expression of a gene responsible for controlling cellular pump mechanisms in cell, comprising

i) providing an effective amount agent that binds to a nucleic acid comprising the nucleotide sequence of SEQ ID NO: 3 or fragments thereof; and

ii) contacting the agent with the cell.

50. A method for delivering a suicide protein to a tumor cell, comprising

i) providing an expression vector comprising a first nucleic acid with the sequence of SEQ ID NO:3 and a second nucleic acid sequence encoding a suicide protein, wherein the second sequence is operatively linked to the first sequence; and

ii) contacting the vector with the cell.